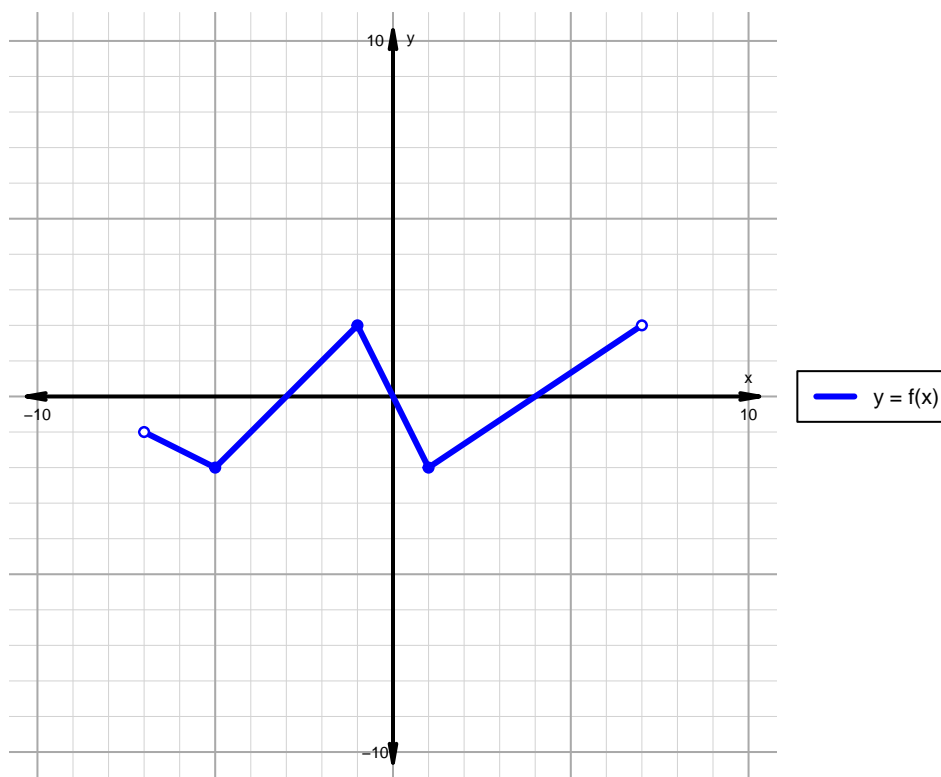


Name: \_\_\_\_\_

Date: \_\_\_\_\_

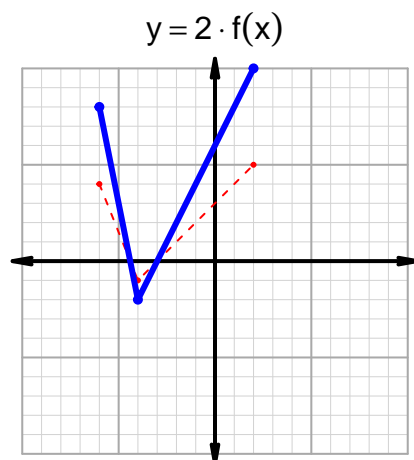
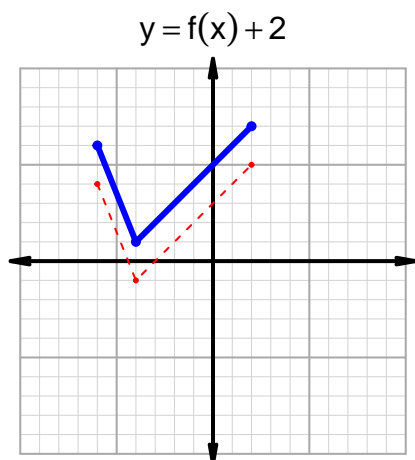
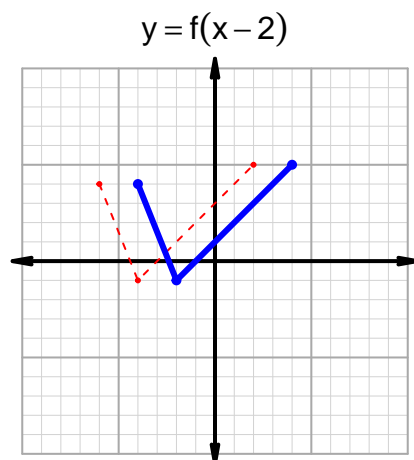
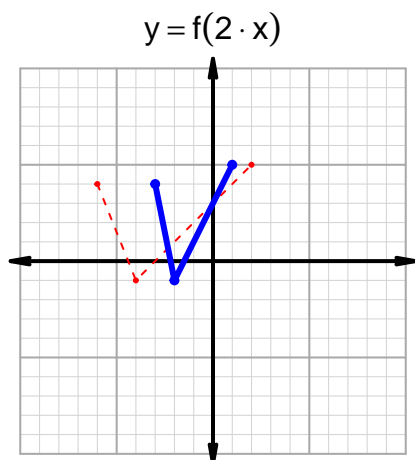
**Intervals, Transformations, and Slope Solution (version 77)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-3, 0) \cup (4, 7)$
Negative	$(-7, -3) \cup (0, 4)$
Increasing	$(-5, -1) \cup (1, 7)$
Decreasing	$(-7, -5) \cup (-1, 1)$
Domain	$(-7, 7)$
Range	$(-2, 2)$

## Intervals, Transformations, and Slope Solution (version 77)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 19$  and  $x_2 = 46$ . Express your answer as a reduced fraction.

$x$	$g(x)$
14	19
19	77
46	14
77	46

$$\frac{g(46) - g(19)}{46 - 19} = \frac{14 - 77}{46 - 19} = \frac{-63}{27}$$

The greatest common factor of -63 and 27 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{3}$$